

24 Developing Higher Order Comprehension in the Middle Grades

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According to the International Reading Association (1999), "adolescents entering the adult world in the 21st century will read and write more than at any other time in human history. They will need advanced levels of literacy to perform their jobs, run their households, act as citizens and conduct their personal lives" (p. 3). Despite these predictions, national assessment data suggest that few are prepared to take on these challenges. Fewer than one third of adolescents in the United States read proficiently, and overall reading performance among 12th-grade students actually declined between 1992 and 2005 (Perie, Grigg, & Donahue, 2005). According to the 1998 NAEP results, an even smaller percentage—less than 5%—could extend or elaborate the meanings of the materials they read (Donahue, Voelkl, Campbell, & Mazzeo, 1999).

While a great deal of attention has focused on early literacy development, the challenges of adolescent literacy have only more recently received attention. In 2007, adolescent literacy was rated as the "hottest" topic in literacy education by literacy leaders at the International Reading Association (Cassidy & Cassidy, 2007). Moreover, these same experts concurred that adolescent literacy *should* be a very hot issue. (This was in contrast, for example, to Direct/Explicit Instruction, which was judged to be very hot topic but one that the experts believed should not have been.) Thus, at the time this chapter is being written, there is a strong focus on early reading development and instruction and a growing focus on adolescent literacy.

The need for more attention to adolescent literacy is clear: By the time students reach high school, they are less likely to read on their own, less likely to be interested in reading, and as noted above, less likely to be proficient in reading than they were as primary students (e.g., Moje, Young, Readance, & Moore, 2000; Strommen & Mates, 2004). These declines in motivation and achievement seem to have their origins in the upper elementary grades and continue through middle school (International Reading Association, 1999; Chall & Jacobs, 2003; Wigfield, 1997).

The onset of these declines corresponds with the difficulty many students experience in reading as they transition from an emphasis on strategies for decoding and fluency ("learning to read") to an emphasis on using reading for understanding new concepts and ideas ("reading to learn"). Fluency, word meanings and prior knowledge are increasingly important in this stage of development. Students are expected to read and learn about unfamiliar topics where the vocabulary is unfamiliar and the linguistic structures are more complex. While comprehension has always been the objective in reading, it becomes a different sort of challenge at this stage.

The effects of the difficult transition some students experience in shifting from an emphasis on decoding and fluency to an emphasis on comprehension and information gathering have sometimes been described as "the fourth grade slump" (Chall, 1983; Chall & Jacobs, 2003; Chall, Jacobs, & Baldwin, 1990). Children who experience this

"slump" in their reading skills and interests often fail to transition to the stage of reading development in which they can use reading as a tool for learning (Chall & Jacobs, 2003). Jeanne Chall (1983) hypothesized that this new stage of reading—the initial stage of "reading to learn" encompassed grades four through eight.

The need to support students in their efforts to master the more complex demands of middle school reading have been well recognized (e.g., Brown, 2002; Durkin, 1979; Chall & Jacobs, 2003; Pressley, 2002). Nearly three decades ago, Dolores Durkin (1979) set out to document the ways in which comprehension development was supported in classrooms. Despite the acknowledged need for comprehension instruction, Durkin found almost *no instruction* occurring in the classrooms she observed. In the 4,469 minutes of reading instruction she observed, Durkin documented exactly 10 minutes in which the teacher taught comprehension.

Instead, she observed that "teachers neglect[ed] comprehension because they [were] busy teaching phonics, structural analysis, or word meanings" (p. 481). With respect to comprehension, Durkin described teachers as mentioning information, interrogating students, assigning worksheets and assessment papers, and checking students' success. Thus, the students who comprehended well when they entered the classroom had some opportunities to practice their skills; those who struggled with comprehension received little or no instruction that would lead to improvement. Decades later, Michael Pressley and his colleagues (Pressley, Wharton-McDonald, Mistretta-Hampston, & Echevarria, 1998; Allington & Johnston, 2002) found essentially the same thing in grades four and five. And even more recently, Taylor and Pearson (2002) report that even in exemplary classrooms, there is very little comprehension instruction taking place.

Research conducted during the 1980s and 1990s demonstrated clearly that comprehension strategies could be taught (see in particular, chapters 18 and 22 in this volume)—and that when students learn to use strategies, their comprehension improves (see Pressley, 2002, 2006). Despite these well-understood findings, comprehension instruction continues to receive less attention in the classroom than other skills or content.

THE GOALS FOR READERS IN THE MIDDLE GRADES: WHAT READERS NEED IN ORDER TO COMPREHEND MIDDLE SCHOOL TEXTS

In recent years, there has been a concerted effort to introduce young readers to informational text much earlier than was the case when Jeanne Chall (1983, 1996) conceptualized the stages of reading development. As the inclusion of a wider range of texts becomes common practice in primary grade classrooms, one would expect students to be better prepared to take on these genres in the middle grades. Regardless of genre, however, the challenges of accessing text remain significant for readers in the middle grades. As readers make the transition from learning to read to becoming fluent readers of new information, they rely on proficiency in a number of areas of reading.

Skilled comprehenders recognize the words on the page automatically (Ehri & Snowling, 2004; Rasinski et al., 2005) and can decode unfamiliar words quickly; they read text fluently; they have a repertoire of comprehension strategies and they know when and how to combine them; they employ metacognition to monitor their reading processes. Moreover, skilled comprehenders know a lot of word meanings (vocabulary) and know a lot about the world (Anderson & Freebody, 1981).

Word recognition and fluency

In order to comprehend challenging text, the reader must first be able to access the words on the page—quickly and accurately. The typical middle school reader can hold

approximately seven items in short-term memory at one time (Miller, 1956). This means that if the reader is focused on sounding out individual letters and combinations of letters and thinking about how to blend them together, there will be very little attentional capacity remaining for comprehension (LaBerge & Samuels, 1974; Rasinski et al., 2005; Tan & Nicholson, 1997). In a study of 303 ninth graders, Rasinski and his colleagues found a moderately strong correlation between reading fluency and reading comprehension ($r = .53$). Moreover, they argued that the 28% of the variance in comprehension explained by students' fluency likely underestimated the true contribution, since the students they studied represented a restricted sample: as a group, they performed below grade-level expectations for both fluency and comprehension. The authors suggest that if the sample had included more higher achieving students (increasing the range), the correlation would have been even higher.

When students lack fluency and automaticity, they tend to read less and avoid difficult materials (see Chall, 1983, 1996; Stanovich, 1986). Thus, not only is their comprehension affected directly, but one of their avenues to improvement (a lot of reading) is also restricted (Allington, 2006; Rasinski, & Hoffman, 2003). Given this potential outcome, it is important to recognize that fluency and automatic word recognition can be taught—with corresponding improvements in comprehension. In an experimental training study, Tan and Nicholson (1997) demonstrated that improving students' automatic recognition of words and phrases led to significant improvement in their reading comprehension. Rasinski and Hoffman (2003) describe numerous studies focused on improving students' fluency, in which comprehension also improved (e.g., Dowhower, 1989, 1994; Knapp & Winsor, 1998; Pinnell et al., 1995; Topping, 1987).

Comprehension strategies

Skilled readers are proficient decoders, recognize words quickly, and read fluently. But just getting the words off the page is not enough. The skilled reader actively constructs meaning from those words via a set of strategies such as predicting, imaging, questioning, summarizing, clarifying, inferring, and connecting to prior knowledge. Many of these strategies were documented by Pressley and Afflerbach (1995) in a series of verbal protocol analyses in which they had expert readers think aloud as they read texts in their fields. Good readers, as they documented, are extremely active, interacting with the text on both personal and intellectual levels as they read.

The comprehension strategies used by good readers do not always develop on their own—even among students who decode easily and read words quickly and accurately. Strategies *can* be taught, however, and studies consistently demonstrate positive effects of such instruction on reading comprehension (see, for example, Dole, Duffy, Roehler, & Pearson, 1991; Gambrell & Bales, 1986; Haller, Child, & Walberg, 1988; Palincsar & Brown, 1984; Pressley, 2002, 2006; Pressley et al., 1992; Trabasso & Bouchard, 2002).

In effective strategy instruction, the teacher explains the purpose of the strategy, how to use it, and when and where to use it. She models its use for students, and provides extensive opportunities for guided practice before expecting students to use the strategy independently. Strategies are taught just a few at a time and students learn to coordinate multiple strategies as they read. Strategies instruction is long-term and woven through the content areas so students learn to apply appropriate strategies to comprehend a wide range of genres (Pressley, 2000).

Metacognition

Metacognition is the awareness of one's own thinking processes that enables the learner to use strategies well. At the most basic level, the reader must be aware of whether or

not he is understanding the text. As middle school students encounter more complex texts and must coordinate multiple strategies to comprehend them, the ability to monitor one's own processes and understanding becomes critical to success. Pressley (2002) suggests that in this context, metacognition, "develops most completely when students practice using comprehension strategies as they read" (p. 292). Thus, students not only need to learn the strategies, they need extended opportunities to practice them and opportunities to reflect on their use with others.

Vocabulary

A student's knowledge of vocabulary is strongly related to his or her ability to comprehend text (e.g., Anderson & Freebody, 1981; Beck, Perfetti, & McKeown, 1982; Graves, 2000; Nagy, Anderson, & Herman, 1987). Moreover, in a study examining the origins of the "fourth grade slump," Chall and Jacobs (2003) found that students' decline began not in overall comprehension, but with a slip in word meanings, evident in fourth grade. This was followed by a decline in word recognition and spelling and it was not until later—in middle school—that the students exhibited measurable difficulty in comprehension. Word knowledge is cumulative (Stahl & Nagy, 2006). The more words a student knows, the easier it is to learn new words. Thus, children who enter the intermediate grades with weak vocabularies are not able to take advantage of richer texts, and because they spend less time engaged with richer texts, they learn less about the world and fewer new words. And they fall further and further behind.

Causal evidence indicates that developing a student's vocabulary is one way to improve his comprehension (Beck, Perfetti, & McKeown, 1982; McKeown, Beck, Omanson, & Perfetti, 1983; McKeown, Beck, Omanson, & Pople, 1985). Chall and Jacobs (2003) urge educators not to be sanguine about students with limited word knowledge—even if the rest of their reading profile appears to be fine. Instructional practices that support vocabulary development are critical to comprehension development in the middle grades.

Prior knowledge

One of the reasons that vocabulary correlates with comprehension is that vocabulary can be a proxy for what a student knows about the world. If the student is familiar with terms such as *estuary*, *inlet*, *vegetation*, *wilderness*, *heron*, *tributary*, and *marine*, it is likely that she knows something about wetland ecosystems. Prior knowledge about a topic has a profound effect on comprehension. According to schema theory (e.g., Anderson, 1984; Anderson & Pearson, 1984; Rumelhart, 1980), knowledge is organized in complex, relational structures called *schemata*. Schemata constitute our knowledge about "objects, situations, events, sequences of events, actions, and sequences of actions" (Rumelhart, 1980, p. 34). Comprehension is a matter of activating or creating schemata that relate to the text and lead the reader to a meaningful interpretation. Readers' access of schemata allows them to make connections, predictions, and interpretations of what they are reading. For example, consider the following paragraph from a memoir my middle school son, Andrew, is currently reading:

With the Red Sox, after I grounded out, I got back to the dugout and nobody said much. That wasn't a big deal. But when I went to the end of the dugout to put away my helmet, Grady Little [the manager] pulled me aside and told me: Swing away. Grady told me that the Red Sox wanted me to bring runners in, to drive the ball, because that's why they brought me there. I couldn't believe it, bro. I was so happy. Here I was doing what I thought the manager wanted me to do—make an out on purpose so we could move the runner—and the manager is telling me to take a hack

up there, to let it go. Can you believe that shit? I felt like I just got out of jail, bro. I felt like I could hit the way I wanted to hit. (Ortiz, 2007, p. 128)

Andrew has a well-developed schema for the game of baseball that enables him to easily make sense of terms like *grounded out*, *dugout*, *helmet*, *runners*, and *drive* in the current context. This includes understanding the distinction between a baseball player's helmet and a knight's helmet, and knowing that *runners* in this instance refers to base runners rather than track runners, numbers runners, or drug runners. His knowledge of the sequence of a game of baseball enables him to visualize the author hitting a ground ball, being thrown out at first base, returning to the dugout, and walking past his teammates to hang up his helmet. Andrew knows that baseball is strategic, so he understands that sometimes players make outs on purpose, but that normally, the objective is not to make outs. More specifically, he knows that the author, David Ortiz, is a champion home run hitter—which enables him to understand the player's frustration in holding back—and why he would be the right person to "bring runners in." On a linguistic level, Andrew knows that David Ortiz grew up in the Dominican Republic and sometimes uses familiar dialect in his talk. This helps him read right through the word "bro" without pausing—knowing that it is a form of the word "brother" and a familiar term for addressing someone. He can hear Ortiz's voice in his head as he reads it. He knows that adults in sports (and elsewhere) often use language that is not acceptable for children to use. This enables him to read right through the profanity, despite seeing it only rarely in print. He does all this without noticing, eager to get to the next page. Readers routinely draw upon their background knowledge in these ways when they encounter familiar topics and genres across the curriculum.

In the context of middle grades comprehension, students who know more about a topic or are more familiar with a particular text structure will be better able to comprehend a text. And the process of reading the text adds to their knowledge base, extends their schemata, and makes it easier to comprehend related text in the future. Students with limited prior knowledge have fewer schemata to draw upon, making comprehension more difficult. If it is too difficult, they may abandon the text altogether. So while those with prior knowledge continue to grow as readers and learners, those with limited background risk falling further and further behind. Stanovich (1986) referred to these cycles as the "Matthew Effect" because the rich get richer while the poor get poorer.

THE CONTEXT FOR LEARNING IN THE MIDDLE GRADES

The knowledge, skills, and strategies considered above are critical to the success of the intermediate level reader. But they do not tell the whole story. As students move out of the primary grades and into the middle school years, they not only encounter more complex texts and greater expectations for learning new content, they are also becoming more invested in their interests outside of school. It is during these years that academic motivation and achievement often begin to decline (Chall & Jacobs, 2003; International Reading Association, 1999; Wigfield, 1997). Middle school readers have been characterized as disinterested and unmotivated (e.g., Anderson, Wang, & Gaffney, 2006; McKenna & Kear, 1995). Despite documented declines, recent studies call such descriptions of disinterest into question by casting a wider net to try to understand young adolescent readers in a broader context.

Out-of-school literacies

Faulker (2005) makes the distinction between *public literacies*: The school-based literacies that highlight skills and knowledge necessary for school and allow students to

function in the classroom and *private literacies*, which she defines as, "out-of-school literacies linked to literate practices that influence the personal, social and individual lives of students" (p. 109). She contends that the public literacies of school present too narrow a conception of what it means to be literate. Further, she attributes the alienation and disengagement that can characterize middle grades students to a failure to expand the conception of literacy in school.

Two major survey studies have documented the differences in students' public and private literacy practices (Ivey & Broaddus, 2001; Pitcher et al., 2007) and emphasized school practices that can help bridge the gap. Sharon Pitcher and her colleagues revised the Motivation to Read Profile (Gambrell, Palmer, Codling, & Mazzoni, 1996) to be more appropriate for adolescent readers and administered it to 384 students in the sixth to twelfth grades. In addition, they interviewed approximately 100 students in grades 6–11. The authors describe the main themes emerging from the interviews as "the discrepancies between students' views of themselves as readers in school and out of school, students' use of multiliteracies, the influence of family and friends on reading, the role of teachers and instructional methods and the importance of choice" (p. 391). Students who described themselves on the Adolescent MRP as "never" or "not very often" liking reading also listed the hunting and fishing magazines they read avidly at home. When they were on their own time (outside of school and school obligations), these same students reported spending many hours reading and writing on the Internet and in other flexible and varied formats. As noted by Darvin (2006), "It's amazing how important reading and writing can be when you use them for things that really matter to you" (p. 403). It seems that when asked, middle school students initially define "reading" as school reading, which they increasingly avoid. But when offered opportunities to elaborate, they reveal much more complex—and literate—profiles.

Whereas public (in-school) literacies remain focused on book-length texts and articles, the private (out-of-school) literacies of young adolescent readers are much more diverse, including many forms of electronic and popular media (Bean, Bean, & Bean, 1999). The materials that adolescents like to read are not easily available in school (Worthy, Moorman, & Turner, 1999). In addition, middle school students' reading engagement is influenced by their expectations for what they are required to *do* with a text. Janet Allen has referred to what she calls "the smell of the trap" (personal communication, September 16, 2005). Most often, the text is selected by the teacher and the assignment to read it is accompanied by an activity also designed by the teacher (e.g., book report, presentation, quiz). Allen suggests that by middle school, students have learned to anticipate these "traps" every time a new book (or other reading selection) is assigned. Under these circumstances, students often appear to be unmotivated and unengaged.

Ivey and Broaddus (2001) conducted a large-scale survey of middle school students in an effort to understand what materials and instructional practices motivated young adolescents to engage in literacy in school. Students in the study were very motivated by having opportunities to choose their own reading materials. Like most adult readers, they enjoyed "just plain reading," and they resisted reading opportunities in which the teacher chose the book, determined how it was to be read, and assigned a project at the end. The negative characterizations of middle school readers as disinterested non-readers seem closely linked with the instructional experiences they have and the disconnect they experience between the ways in which they are literate outside of school, and the expectations for literacies within the school walls.

Motivation and engagement

As the young adolescents in these studies demonstrate, a student will read and comprehend a piece of text not only because he *can* do it, but because he is *motivated* to do it. By the time students reach the intermediate grades, motivation is a significant

factor influencing their comprehension development. According to Guthrie and Wigfield (2000), "motivation is what activates behavior. A less motivated reader spends less time reading, exerts lower cognitive effort, and is less dedicated to full comprehension than a more highly motivated reader" (p. 406). Since the development of higher order comprehension demands engagement in instruction and in reading, motivation is critical to students' progress. Guthrie and Wigfield (1997, 2000) suggest that motivation is the link between frequent reading and reading achievement at this level: Students who are motivated to read, read more and achieve more; their increasing competence motivates them to read more and the cycle continues (Guthrie, Wigfield, Metsala, & Cox, 1999; Stanovich, 1986).

During the middle childhood and early adolescent years, reading motivation shifts in important ways (see Eccles, Wigfield, & Schiefele, 1998, for a detailed discussion). Students' competence beliefs, values and intrinsic motivation for learning tend to decline across the elementary school years. Oldfather and her colleagues (Oldfather & Dahl, 1994; Oldfather & McLaughlin, 1993) have attributed the decline in motivation to changes in classroom conditions. In their studies, they noted that as students moved from "self-contained, responsive classrooms that honored students' voices and had no grades" to more teacher-centered learning environments in which students had little voice or choice in their learning options, their motivation to read declined. As some students leave the supportive environments of their primary grade classrooms, they may find reading and literacy activities to be unrewarding, too difficult or not worth the effort. When in-school reading is viewed as completely disconnected from private literacies, students risk becoming nonreaders (Strommen & Mates, 2004) or alliterate adolescents (Alvermann & Eakle, 2003) who are—at least initially—capable of reading but choose not to do so. Given the role of extensive reading in developing higher order comprehension, these choices are not insignificant.

Engagement follows from motivation. Guthrie, McGough, Bennett, and Rice (1996) describe engaged readers as "*motivated* to read for a variety of personal goals, *strategic* in using multiple approaches to comprehension, *knowledgeable* in their construction of new understanding from text, and socially *interactive* in their approach to literacy" (p. 403). Engagement is perhaps the central element in developing effective comprehension instruction in the middle grades. Strategies and knowledge are critical, but if the reader chooses not to use them, they are of little use. Likewise, motivation is necessary, but motivation does not exist in a vacuum. If the reader lacks the strategic knowledge or background to make sense of text or a learning environment that supports a socially interactive approach to literacy, motivation cannot support achievement, and, in fact, is largely unsustainable.

The relationship between engagement and achievement appears to be a reciprocal one (Guthrie & Wigfield, 2000). In a national sample of students, Campbell, Voelkl, and Donahue (1997) studied the relationship at three ages: 9, 13, and 17. They found that the more highly engaged readers had higher reading achievement than the less-engaged readers. In fact, the 13-year-old students who were highly engaged outperformed the 17-year-olds who were less reading-engaged. In addition, the engaged readers from families with low income and educational backgrounds were higher in achievement than less engaged readers from high income and educational backgrounds.

Summary

The development of higher order comprehension processes in the middle grades results from the complex interaction of a set of skills, strategies, and dispositions, all of which can be nurtured (or stifled) in the context of the school classroom. In order to create deep meaning from text, the student must first be able to access the text itself. She

must have strong decoding and word recognition skills. She must be able to process the words, sentences and larger units of text fluently, so that words and phrases combine to make meaning. She relies on comprehension strategies to help her connect units within the text and units of text with her existing schemata. She must not only know how to use particular strategies, but she must know when and where and how to use them. Moreover, she needs the metacognitive knowledge to monitor her comprehension processes—so she is aware of when a new or different strategy is needed. The proficient reader also knows a lot of words: Her vocabulary knowledge enables her to grasp the concepts and contexts presented in the text. She is able to access background knowledge (schemata) related to the text content. This enables her to make predictions about what comes next, connect the new to the known, pose relevant questions, and form more complex interpretations of what she is reading. All of these skills, strategies, and understandings are important but remain essentially dormant unless the reader is also motivated to use them. In order for the learner to develop higher order comprehension, she must be interested, motivated to participate, and engaged in the literacy activity. It is only when instruction truly engages the student reader that learning can take place.

INSTRUCTIONAL FRAMEWORKS FOR DEVELOPING COMPREHENSION IN THE MIDDLE GRADES

In a detailed analysis of existing comprehension instruction, the authors of the RAND report on reading comprehension conclude that, "good instruction is the most powerful means of developing proficient comprehenders and preventing reading comprehension problems" (Snow, 2002, p.29). The sections that follow describe some examples of multidimensional instructional frameworks for developing comprehension in the middle grades. While the set chosen is certainly not complete, it represents a range of approaches which integrate the components reviewed in the first half of this chapter and which have adequate research evidence to support their use. There are many other promising methods that have been used to improve the comprehension of intermediate readers, but in most cases, they focus on a single strategy and/or they yet lack empirical evidence to support them.

Reciprocal teaching

Reciprocal teaching (Palincsar & Brown, 1984) is sometimes considered the grandfather (or, given its authors, the grandmother) of frameworks for comprehension instruction. It was the first empirically validated approach to the teaching of coordinated strategies instruction (Block & Pressley, 2002). Developed by Annmarie Palincsar and Ann Brown, reciprocal teaching focuses on four comprehension strategies: prediction, questioning, seeking clarification, and summarization. The strategies are taught through a fairly rigid sequence of instructional events, with a gradual release of responsibility from the teacher to the students. Together, the students and teacher read a passage of text, paragraph by paragraph. As they read, they learn and then practice the four strategies. Students first experience the strategies as modeled by the teacher; they then practice the strategies, supported by the teacher with specific feedback, coaching, hints, and explanation. The leadership role in the dialogue is gradually shifted from the teacher to the students, with the goal of developing independent, coordinated use of the four strategies.

Studies of the effects of reciprocal teaching have shown consistently positive results, with effect sizes ranging from weak to strong. In a review of 16 published and unpublished studies of reciprocal teaching, Rosenshine and Meister (1994) reported overall effect sizes of .32 when the outcomes were measured by standard tests of comprehension and

.88 when the outcome measures were teacher-developed. The most significant feature of reciprocal teaching is the interaction between the teacher and her students. The gradual release of responsibility—and the steps involving modeling and guided practice leading to independent strategy use—have been features of nearly all instructional frameworks in comprehension since.

Reciprocal teaching represented a major shift in approaches to comprehension instruction, and as such, has served as a model of sorts for all who came later. It has not been without its critics, however. The format is rigid and extremely time consuming. Ironically, despite its focus on the development of individual students, Brown and Campione (1998) have expressed concern that reciprocal teaching has been routinized by teacher and publishers: "The surface rituals of questioning, summarizing and so forth are engaged in, divorced from the goal of reading for understanding that they were designed to serve." In contrast to the way they were intended to be used, "these strategies are sometimes practiced out of context of reading authentic texts" (p. 177). Ultimately, reciprocal teaching laid the foundation for much of the coordinated strategies instruction that followed.

Transactional strategies instruction

Transactional Strategies Instruction (TSI) is an approach to teaching comprehension strategies with an emphasis on developing readers who are metacognitive and self-regulated. One of the most challenging aspects of teaching students to use comprehension strategies is that the strategies are not used one at a time, nor in a predetermined order. Rather, the effective reader selects the particular strategy needed from a collection of possible choices, combines strategies, and switches from one strategy to another when the first one is not working. The effective strategy user is flexible and self-regulated.

In TSI, readers are taught that the meaning of a text does not reside in the text alone; nor does it reside solely in the mind of the reader. Rather the meaning is created through the transaction between the text and the reader (Brown, El-Dinary, Pressley, & Coy-Ogan, 1995; Brown, Pressley, Van Meter, & Schuder, 1995; Pressley et al., 1992). Thus the reader is necessarily an active participant in the construction of comprehension. Moreover, readers learn that meaning emerges through transactions between members of the group. This is a far cry from the instructional setting in which students read passages in silence and respond to questions about the author's intended message. According to one of the principal architects of TSI (Michael Pressley), "... transactional strategies instruction is all about teaching students to choose active reading over passive reading and to decide for themselves which strategic process to use when they confront challenging texts" (Pressley & Wharton-McDonald, 2006, p. 320).

Students in the TSI classroom learn how, why, and when to use a set of comprehension strategies, most often including predicting, verifying predictions, visualizing, summarizing, restating, connecting information with background knowledge, and monitoring. Instruction typically takes place in small groups, but extends to whole class, read alouds and anywhere else in the curriculum where comprehension strategies would be helpful. Early in the instruction, the teacher assumes primary responsibility for explaining, modeling and providing guided practice in strategy use. However, over time, responsibility is gradually shifted to the students, first in a shared model, and then to one in which the students make decisions and assume responsibility for their strategic reading. During the transition process, the teacher serves as a coach, offering hints and other feedback to scaffold the process. Because the instruction is necessarily responsive to the discussions, interpretations, and needs of the students, instruction in this framework cannot be scripted in advance.

Three studies have investigated the effects of TSI directly. The first (Brown, Pressley, Van Meter, & Schuder, 1996) was a year-long quasi-experimental investigation of the effects of TSI on second-grade children's reading. The researchers compared reading performance in five classrooms where teachers used TSI to the performance of a comparable group of students in classrooms where teachers were well regarded as language-arts teachers but who were not using a TSI approach. By the spring of second grade, students in the TSI classrooms not only outperformed their peers in the comparison group in reading but they also learned more content over the course of the year. In addition, the teachers reported that TSI increased students' self confidence and enjoyment as readers.

The second study (Collins, 1991) described fifth- and sixth-grade students involved in comprehension instruction consistent with TSI, three days a week for a semester. At the end of the semester, students in the treatment group outperformed those in the control group by three standard deviations. Finally, Valerie Anderson (1992; Anderson & Roit, 1993) conducted a 3-month investigation of the effects of TSI on students with reading disabilities in grades 6–11. Although students in both the treatment and control groups made gains during the study, the students in the TSI group made larger gains. In addition, Anderson (1992) collected a range of qualitative data on the students that also supported the use of TSI. For example, students in the TSI group were more willing to read and attempt to understand difficult material, more willing to collaborate with classmates to understand text, and more likely to react to and elaborate upon text. Since one of the explicit goals of TSI is to develop more active, engaged readers, these qualitative outcomes are likely as important as the gains in test scores themselves.

The disadvantage to TSI has to do with its labor intensive nature (Brown, Pressley, Van Meter & Schuder, 1995; El-Dinary & Schuder, 1993). Teachers report that it demands a great deal of time, requires appropriate texts in multiple copies and requires teachers to relinquish some of the control they are accustomed to having in their classrooms.

Collaborative strategic reading

Like TSI, Collaborative Strategic Reading (CSR) was developed on the foundation of reciprocal teaching (Palincsar & Brown, 1984). Its authors combined their knowledge of cognitive strategies instruction with the findings from cooperative learning (e.g., Johnson & Johnson, 1989, 1999) to create a framework that was originally intended to support children with learning and/or behavioral disabilities in the regular education classroom (Klinger & Vaughn, 1999; Klinger, Vaughn, Dimino, Schumm, & Bryant, 2001; Klinger et al., 2004). Like TSI, it presents active strategy instruction in an engaging social (collaborative) learning environment.

CSR teaches four critical reading comprehension strategies with specific information about how and when to apply them to understand expository text (Klingner & Vaughn, 1999). Students are taught one strategy and its procedures at a time before they are taught to combine them. The four basic strategies include brainstorming and predicting (Previewing), monitoring understanding (Click and Clunk), finding the main idea (Get the Gist), and generating questions and reviewing key ideas (Wrap Up) (Klingner & Vaughn, 1999). Initially, the teacher defines and explains the strategy to the whole class, models its use, and role-plays its implementation with students. When the students are proficient with all four strategies, they are divided into heterogeneous groups with each student assigned a specific role. For example, students assume roles of leader, clunk expert (responsible for cuing problem-solving strategies), announcer, encourager, reporter, and timekeeper. Cue cards guide the group members through their assigned roles initially, providing structure and reminders, but as students become proficient in the procedures, the use of the cards is diminished. Students use learning logs to activate prior knowledge before reading and to record self-questions after reading.

Once the students are familiar with the strategies and the use of the roles, the teacher circulates among groups, providing assistance as needed. For example, he might need to clarify difficult words, model a strategy again, or encourage a student to participate. Like the TSI framework, CSR is designed to gradually shift the responsibility for learning from the teacher to the students.

A number of studies have investigated the effects of CSR on students' comprehension in upper elementary and middle school classrooms, with consistently positive results. Klingner, Vaughn, and Schumm (1998) provided CSR instruction in inclusive fourth-grade classrooms during social studies—with particular emphasis on helping students comprehend social studies texts. Students in the CSR group made significantly greater gains than students in the control group on the Gates-MacGinitie Reading Tests (MacGinitie & MacGinitie, 1989) and demonstrated equal proficiency in their knowledge of the social studies content. In another study (Bryant, Vaughn, Linan-Thompson, Ugel, & Hamff, 2000), CSR was implemented in an inclusive middle school program where students with and without disabilities made significant gains. In a year-long quasi-experimental study of fourth-grade classrooms, Klingner et al. (2004) provided professional development in the CSR framework to five intervention teachers and observed their instruction throughout the year, comparing their students' reading gains with those of students in five control classrooms. Students in CSR classrooms improved significantly in reading comprehension compared with the students in the control classrooms. However, when the gains in the two conditions were compared by achievement groups, only the gains made by the high/average-achieving group were statistically significant. Students in the CSR condition from the low-achieving and LD groups did improve more than their peers in the control classrooms, but the differences in gains did not reach statistical significance. Thus, although the framework was developed in an effort to support low-achieving students, it appears to be even more effective with their higher achieving peers. When CSR has been implemented to support English language learners, two other studies (Klingner & Vaughn, 1996, 2000) have documented significant gains for students who were learning English.

Like TSI, Collaborative Strategic Reasoning demands a high level of preparation and engagement on the part of the teachers. Klingner and her colleagues (Klingner, Vaughn, Arguelles, Hughes, & Leftwich, 2004) found that the teachers' implementation varied a great deal—even with the common professional development provided at the beginning of the study. Importantly, students' comprehension gains were associated with the quality of implementation of the CSR framework. The authors recognize that the implementation of a complicated framework of strategies instruction is both time consuming and challenging. It requires middle school teachers to "let go" of some of their control of their classroom and students. It demands a high level of intelligence to be able to respond to students' questions and difficulties in ways that support strategic thinking. Like Pressley and El-Dinary (1997), Klingner et al. (2004) question whether these types of instruction are "possible for only some teachers" (p. 293).

Concept oriented reading instruction

Concept Oriented Reading Instruction (CORI) differs from the other frameworks in its dual focus on comprehension strategies *and* student motivation to read. Based on Guthrie and Wigfield's theory of engaged reading (see Guthrie & Wigfield, 2000; Guthrie, Wigfield, & Perencevich, 2004), CORI merges explicit cognitive strategy instruction with motivational support practices in the context of content area (science) instruction.

The CORI model is based on a solid grounding in cognitive strategies instruction, including modeling, scaffolding, guided practice, and the conditional knowledge of when, where and how to use the strategies. What distinguishes it from other instruc-

tional frameworks are five additional contextual features: (1) *knowledge goals*: reading instruction takes place within the context of a content domain in which the knowledge goals are made clear to students; (2) *real-world experiences*: student experiences are prominently linked with the texts and instruction; (3) *autonomy support*: students learn to make meaningful choices and take control of their learning; (4) *collaboration*: students learn to work together; and (5) an abundance of diverse *interesting texts* in the content domain. These five features were developed for the explicit purpose of supporting students' motivation and engagement in the belief that "merging motivational and cognitive strategy support in reading comprehension instruction will increase engaged reading and reading comprehension" (Guthrie & Ozgungor, 2002; Guthrie, Wigfield, & Perencevich, 2004, p. 405).

A number of investigations support the effectiveness of this framework. In a year-long study in third and fifth grades, Guthrie and his colleagues (Guthrie, Anderson, Alao, & Rinehart, 1999; Guthrie et al., 1998) reported positive findings in both comprehension and motivation. Students in the classrooms where CORI was implemented improved in search and comprehension skills, writing, understanding of central concepts, comprehension of texts, and interpretation skills compared to comparable students in classrooms where they received more typical strategies instruction. Moreover, the majority of students reported greater motivation to read and participate in comprehension activities as the year progressed and more time spent reading.

In a subsequent study, Guthrie et al. (2004) compared CORI to two different third grade-classroom conditions—one in which students received essentially the same strategies instruction as provided in the CORI framework but without the motivational components (SI)—and one in which students received traditional instruction (TI). In each of the first two conditions—CORI and SI—students received similar instruction in the following reading comprehension strategies: (a) activating background knowledge, (b) questioning, (c) searching for information, (d) summarizing, (e) organizing graphically, and (f) identifying story structure.

After 12 weeks, the CORI students outperformed the SI and TI students on several measures of reading comprehension, though not all of the comparisons reached statistical significance. In addition, their self-reports indicated that they were more motivated and they read more than the students in the SI condition. Overall, students in the CORI condition were more motivated than SI and TI students and were more strategic readers than the SI students (Guthrie et al., 2004).

Like the frameworks described above, the effectiveness of CORI is highly dependent on well-trained, active teachers who truly understand (and support) the principles as well as the practices embodied by the model. Teachers must understand not only the content and the development of reading processes, but the motivational variables as well. Pressley (2006) suggests that one reason the students in the CORI condition (Guthrie et al., 2004) outperformed those in the Strategies Instruction (SI) condition may be a difference in the extent of training (10 days vs. 5) and the lack of expertise among teachers in the SI condition.

Concluding comment

The instructional frameworks described have demonstrated great potential for developing higher order comprehension among middle grades learners. In settings where the frameworks have been implemented, students have made significant gains in reading. That said, research continues to describe few classrooms where children are benefiting from these (or similar) approaches. In a year-long study of fourth- and fifth-grade classrooms, Pressley, Wharton-McDonald, Mistretta-Hampston, & Echevarria (1998) found that while teachers described comprehension as one of the most important goals in their

literacy instruction, they provided almost no instruction that would help students reach that goal. Harkening back to the classic Durkin study of 1979, these teachers provided opportunities for students to *practice* comprehending text and they assessed how well students could do it, but they quite literally never taught it. Two years later, a larger, national study of fourth-grade classrooms replicated those findings (see Allington & Johnston, 2002 for a more complete description). More recently, in Taylor and Pearson's work with teachers and schools that "beat the odds," they report finding minimal (if any) comprehension instruction at the upper elementary level—even in exemplary classrooms and schools (Taylor & Pearson, 2002). Thus, while the research evidence in favor of comprehension instruction piles up, the gap between research and practice remains stubbornly wide.

GENERAL CLASSROOM PRACTICES WITH THE POTENTIAL TO SUPPORT COMPREHENSION DEVELOPMENT IN THE MIDDLE GRADES

There are some general classroom practices that, while less intense or focused than the frameworks described above, are observed more commonly in middle school classrooms, and when combined with explicit strategies instruction, have the potential to play a significant role in supporting higher order comprehension in middle grades students.

Extensive opportunities for reading

Educators often lament the "fact" that middle school students don't want to read. Yet when the sixth-grade students in Ivey and Broaddus' (2001) survey were asked what they enjoyed most in class, the highest number of them (63%) responded with free reading time. In interviews, students reported that having time to read in school actually gave them opportunities to think and comprehend. Moreover, adolescent readers—even those who are reluctant to read in school—indicate that they would do so given adequate time and access to personally engaging materials (Ivey & Broaddus, 2001; Worthy & McKool, 1996).

The International Reading Association's (IRA; 1999) position statement on adolescent reading states that time spent reading is related to reading success (Anderson, Wilson, & Fielding, 1988; Campbell, Kapinus, & Beatty, 1995; Campbell, Voelkl, & Donahue, 1998); that time spent reading is associated with attitudes toward additional reading (Cone, 1994); and that time spent reading is tied to knowledge of the world (Stanovich, 1986). Wide reading is further acknowledged to be one of the most powerful approaches to increasing students' vocabulary knowledge (Graves, 2000; Krashen, 2004; Stahl & Nagy, 2006). Given the roles played by vocabulary, world knowledge, and motivation in developing comprehension, it is clear that middle school instructional practices should include plentiful opportunities for students to read.

Available texts at an appropriate level of challenge

Providing opportunities for students to read can only support comprehension if students have access to books they can actually read (Allington, 2006). Too often at the middle school level, students are expected to read books that are well above their independent reading levels (e.g., Ivey & Fisher, 2005). If the student's cognitive energy is consumed by the process of decoding and interpreting vocabulary, there can be little remaining energy to devote to comprehending larger passages and deeper meanings. Moreover, if the available (or acceptable) materials are of little interest to students, they may choose to avoid reading—even when they are *able* to read. According to the IRA's position

statement, "Adolescents deserve access to a wide variety of reading materials that they can and want to read" (IRA, 1999, p. 7). Effective instructional practices for middle school readers include the provision of easy access to materials that appeal to students. Unfortunately, the materials that appeal to middle school students can be difficult to find in school (Ivey & Broaddus, 2001; Worthy, Moorman, & Turner, 1999). If the goal is to develop motivated, engaged readers, then that needs to change.

Connections to Students' Out-of-School Lives

You build on what they know and what they care about.
(successful history teacher cited by Ivey & Fisher, 2005, p.10)

The evidence is clear that students (like adults) are more willing to read about things that interest them. Even those who appear to be among the most resistant to reading in school may yet be engaged, purposeful readers outside of school (Bintz, 1993; Ivey & Broaddus, 2001; Schraw, Bruning, & Svoboda, 1995; Worthy, 1998). Instructional practices that repair the disconnect between students' public and private literacies—practices that form connections between what is personally interesting to students and the materials they are asked to read in school will support the development of comprehension processes.

Opportunities for discussion

One of the common characteristics of reciprocal teaching, Transactional Strategies Instruction, Collaborative Strategic Reading and Concept-Oriented Reading Instruction is the emphasis on the socially constructive nature of comprehension. In each framework, discussion plays a key role in supporting the development of students' understanding of text. It is through the interaction—or the transaction—of ideas, language, and perspective that comprehension is developed. Students must have time for this discourse; however, by definition, that takes time. Again, discussion alone will not lead to the development of effective comprehension processes. However, when students have opportunities to discuss outcomes in science, debate issues in social studies or analyze literary themes with peers, they are forced to return to the texts for evidence to support their claims (Biancarosa, 2005). They model and practice the strategies of prediction, questioning, clarifying, summarizing, and synthesis. They are able to move their thinking forward in ways that enable them to return to text later with better developed ideas, new perspectives and more background knowledge.

Choice

It makes me want to read when I hear it's our choice and no one else's!
(sixth-grade student interviewed by Ivey & Broaddus, 2001, p. 350)

Teachers who offer students choices, challenging tasks, and collaborative learning environments increase their motivation to read and comprehend text (Snow, 2002). Indeed, adolescents like the student cited above clearly identify choice as a significant factor in motivating them to read (Guthrie & Wigfield, 2000; Ivey & Broaddus, 2001; Pitcher et al., 2007). Guthrie and Wigfield explain the power of choice in terms of the control it affords students. As students move from the primary grades into the intermediate years, there is more of an emphasis on teacher control and fewer opportunities for student

decision making (Eccles & Midgley, 1989; Eccles, Wigfield, et al., 1993). Unfortunately, this shift takes place during the same time when students are striving to become more independent decision makers in their lives. Guthrie and his colleagues deliberately included student choice as a key feature of the CORI framework because they believed that choice plays a significant role in motivating engaged readers (Guthrie, Anderson, Alao, & Rinchart, 1999; Guthrie et al., 1998). Given the strength of student voices and the evidence that underlies engagement theory, choice appears to be a critical feature of effective comprehension instruction in the middle grades.

Read aloud

Read aloud is a daily practice in primary grade classrooms (e.g., Pressley, Wharton-McDonald, Mistretta, & Echevarria, 1998; Wharton-McDonald, Pressley, & Hampston, 1998), but as the pressure to cover content increases, fewer teachers make time for it as students move into the intermediate and secondary grades. Yet read aloud continues to provide valuable opportunities for modeling fluency and comprehension strategies, exploring complex ideas, building vocabulary, and increasing students' world knowledge. It provides a scaffold for supporting classroom discourse. Moreover, students describe read aloud as a tool for developing better conceptual understandings (Ivey, 2003) and they report that they value the experience in school (Ivey & Broadus, 2001). When asked what they enjoyed most in class, 62% of sixth graders reported having their teacher read aloud. Again, the role of motivation must be acknowledged in considering an instructional framework for middle school students. Reading aloud to students—well beyond the point when they can read to themselves—provides a wide range of opportunities for modeling and supporting comprehension instruction in a format that students find highly engaging.

SUMMARY—WHAT IS KNOWN ABOUT SUPPORTING COMPREHENSION IN THE MIDDLE GRADES.

Comprehension instruction that supports the development of higher order processing of text at the middle school level demands a careful mix of strategies and skills instruction embedded within motivating, engaging environments. We know that many students struggle with the transition from the early challenges of "learning to read" to the later, more complex challenges of using reading as a tool for learning (Chall, 1983; Chall & Jacobs, 2003; Chall, Jacobs, & Baldwin, 1990; Perie, Grigg, & Donahue, 2005). We know that as students leave elementary school and move through middle school, their interest in school reading declines, while their interest in out-of-school literacy grows (Moje, Young, Readance, & Moore, 2000; Strommen & Mates, 2004; Wigfield, 1997; Worthy, 1998; Worthy, Moorman, & Turner, 1999). During the same period, we know that students' proficiency in reading is likely to decline (Chall & Jacobs, 1983; Chall, Jacobs, & Baldwin, 1990).

As students make the transition from student-centered classrooms where the focus is on "learning to read" to more teacher-directed classrooms where they are expected to use reading to learn, they need instruction, opportunities and learning contexts that will support them through that process (e.g., Oldfather & Dahl, 1994; Oldfather & McLaughlin, 1993). Unfortunately, the limited research that has specifically targeted students and classrooms in grades four through eight—where student declines appear to take root—consistently reports an absence of comprehension instruction (Allington & Johnston, 2002; Pressley, Wharton-McDonald, Mistretta-Hampston & Echevarria,

1998) and an increase in the separation between in-school (public) literacies and out-of-school (private) literacies (Eccles & Midgley, 1989; Faulker, 2005; Pitcher et al., 2007).

In order for students in the middle grades to develop higher order comprehension, we know that they must be able to access the words accurately and fluently (LaBerge & Samuels, 1974; Rasinski et al., 2005; Tan & Nicholson, 1997). We know that they must be able to draw upon and coordinate comprehension strategies—and that strategies can be taught and learned with positive effects on comprehension (e.g., Pressley & Afflerbach, 1995; Dole, Duffy, Roehler, & Peterson, 1991; Palincsar & Brown, 1984; Pressley et al., 1992). We know that students with larger vocabularies and more extensive background knowledge have better comprehension—and that supporting these components through instruction helps improve comprehension (e.g., Anderson & Freebody, 1981; Beck, Perfetti, & McKeown, 1982; Graves, 2000; Stanovich, 1986).

In contrast to conventional wisdom, we know that young adolescents do, in fact, read—but that they prefer to read materials not often found in school (Ivey & Broadus, 2001; Ivey & Fisher, 2005; Worthy, Moorman, & Turner, 1999). We know that by the intermediate grades, motivation and engagement are significant factors affecting students' comprehension development (Guthrie & Wigfield, 2000; Guthrie, Wigfield, Metsala, & Cox, 1999).

WHAT IS NOT KNOWN—DIRECTIONS FOR THE FUTURE

It has been nearly 25 years since researchers began to consider the unique needs of students making the transition from early conventional readers—those focused on "learning to read"—to intermediate readers, who must use conventional reading as a tool to explore new territory of ideas in print (Chall, 1983). It has been just as long since Durkin (1979) called attention to the utter lack of comprehension instruction for these students. Since that time, there have been remarkably few studies that have focused specifically on typically developing middle grades readers. Most of what we know about instructional supports for these students must be assembled from research with overlapping populations (e.g., primary-grades students, "adolescents," "struggling," or "reluctant" readers).

Most of the early efforts to address the well-recognized "slump" focused on strengthening instruction in the primary grades in an effort to prevent later difficulties. Despite a recent increase in attention to older readers, the focus of most large-scale research projects and intervention funding continues to be on instruction in the primary grades. For example, the proposed federal budget for 2006 included \$1.1 billion budgeted for Reading First (for strengthening readers in grades K–3) and only \$200 million proposed for Striving Readers (supporting instruction for students in high schools). Notice that students in the middle grades were left out completely. There is a profound need for more research that specifically investigates instructional approaches for students who fall between the primary grades and high school. Rather than drawing from studies targeting elementary or secondary students (as we have done in much of this chapter), we need studies that explicitly investigate teaching and learning experiences in middle schools.

Even in studies where comprehension instruction has been implemented with middle school students and positive effects, there is a need to better understand the circumstances under which such practices can be sustained. Researchers who have developed and studied instructional frameworks where students learn to coordinate multiple strategies and researchers consider motivation and engagement, there have been significant challenges to implementation—not from the perspective of the students, but rather from the perspectives of the *teachers* (e.g., Brown & Campione, 1998; Brown, Pressley, Van

Meter, & Schuder, 1995; Klinger et al., 2004; Pressley & El-Dinary, 1997). One explanation for the lack of coordinated comprehension instruction is that it demands a high level of training and expertise and tremendous commitment on the part of the classroom teacher. In many cases, in fact, it appears to be unsustainable in a "typical" classroom. The consistency of these findings raises the question of whether all teachers can learn to teach comprehension in these ways (e.g., El-Dinary & Schuder, 1993; Pressley & El-Dinary, 1997). This is a question that should be explored further.

Given the unique challenges presented by young adolescent readers and their teachers, there is a great deal of work to be done to further our understanding of these students as learners, including both their public and private literacies, the roles of motivation and engagement in their learning, and the challenges facing the teachers who work to implement effective instructional frameworks. These middle grades could well be the critical juncture for students and their literacy development. There is much work to be done to ensure that we guide them on a trajectory toward multiple literacies that connect them to the world and help them move forward in their lives.

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